R E P O R T R E S U M E S

ED 012 111 EA 000 632

EDUCATIONAL RESEARCH MANPOWER--PROJECTED NEEDS.

BY- SIEBER, SAM D.
COLUMBIA UNIV., NEW YORK, BUR. OF APPL. SOC. RES.

PUB DATE MAR 67

EDRS PRICE MF-$0.09 HC-$0.76 19P.

DESCRIPTORS- *EDUCATIONAL RESEARCH, RESEARCH AND DEVELOPMENT CENTERS, *RESEARCHERS, *EDUCATIONAL NEEDS, *GRADUATE STUDENTS, EDUCATIONAL PRACTICE, *BEHAVIORAL SCIENCES, SCHOOL SERVICES, SCHOOL PERSONNEL, TEACHER SHORTAGE, FEDERAL PROGRAMS, NEW YORK CITY

THE AUTHOR STATES FOUR MAJOR PROBLEMS THAT PLAGUE EDUCATIONAL RESEARCH--ISOLATION FROM THE LIBERAL ARTS AND SCIENCES, PRESSURES FROM SCHOOLS, CHRONIC SHORTAGE OF SCHOOL PRACTITIONERS, AND THE POOR QUALITY OF GRADUATE STUDENTS IN EDUCATION. FOUR POLICY IMPLICATIONS RESULT FROM THE FAILURE OF THE EDUCATIONAL RESEARCH FIELD TO RECRUIT ENOUGH QUALIFIED PERSONNEL WITH A MAJOR COMMITMENT TO RESEARCH--(1) MORE RESEARCHERS FROM THE BEHAVIORAL SCIENCES NEED TO BE RECRUITED AND TRAINED FOR WORK IN EDUCATION, (2) NEED FOR SOMETHING WORTHY OF DEVELOPMENT AND DISSEMINATION CAN ONLY BE MET WITH A LARGER AND BETTER QUALIFIED BODY OF EDUCATIONAL RESEARCHERS, (3) THE DEMAND FOR SCHOOL PRACTITIONERS REQUIRES THE EARLY IDENTIFICATION AND ENCOURAGEMENT OF RESEARCH TALENT AND THE FREEING OF THE BEST RESEARCHERS FROM TRADITIONAL TEACHING OBLIGATIONS, AND (4) SUFFICIENT FUNDS MUST BE OFFERED TO ATTRACT THE BETTER STUDENTS IN OTHER DEPARTMENTS. A NUMBER OF RECOMMENDATIONS FOR FEDERAL ACTION ARE MADE. (HM)

ED012111

Educational Research Manpower --

Projected Needs

Sam D. Sieber

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Bureau of Applied Social Research
Columbia University

March, 1967

EA 000 632

Educational Research Manpower -- Projected Needs

The manpower needs of educational research are great -- but they are not the needs that have been espoused by many professional educators, nor are they the needs that are being met by the current research training programs of the U.S.O.E. Projections of the future demand for educational researchers, for example, have been based on the current occupational structure of the field, when what is needed is not more of the same, but a radically new structure. Furthermore, the problem of improving the quality of researchers is greater than the problem of increasing quantity. To clarify these points, it is necessary very briefly to review the history of educational research and the reasons for its striking failure to affect educational practices.*

Four major problems have plagued educational research for many years: isolation from the liberal arts and sciences, pressures from schools for a variety of services, a chronic shortage of school practitioners, and the poor quality of graduate students in education.

A. Isolation of professional education from the liberal arts and sciences.

The profession of education was cut off from the liberal arts

---

*Consensus on the failure of educational research [redacted] is so widespread that the point requires no substantiation here. For example, in a recent survey 90 per cent of the deans of education in the nation denied that we already know so much about the teaching-learning process that the main problem is dissemination of knowledge. (Sieber and Lazarsfeld, The Organization of Educational Research in the U.S., CRP Project 1974; 1966.)

and sciences (the non-professional behavioral sciences) several decades ago. The founders of educational research were not trained in professional education, for the simple reason that graduate schools of education did not exist when these men received their training. But when schools of education were created, the founding fathers quite naturally moved into these new institutions. Their students had less background in non-educational fields, and the students of these students were even more provincial, and so the cycle of in-breeding and provincialization continued. Later generations therefore became increasingly isolated from the mainstreams of scholarship in the academic departments of the universities.

One terrible consequence of this isolation has been a neglect of theoretical frameworks for the guidance of research. For example, many educational researchers are content to collect random facts about schools, to spend their professional careers evaluating trivial educational inventions, or to compare program A with program B in a single school. A recent, candid review of curriculum evaluation projects concludes with an observation that could be applied to the bulk of research in education:

> Since few studies, doctoral or otherwise, are related to a comprehensive theoretical framework of learning or teaching or to a comprehensive curriculum design, the separate studies, when viewed as a whole, appear as sounding brass and tinkling cymbals.[1]

Another dismal consequence of this isolation from the academic departments has been preoccupation with psychological research on education, particularly the "test and measurement"

approach to assessment. The heavy concentration of psychologists in educational research is due to the historical circumstance that all of the eminent men who launched the field of educational research forty to fifty years ago were themselves psychologists. Since the other social sciences were academically immature in those days, it is understandable that psychology would receive most attention. But the in-breeding that occurred in schools of education prevented the faculty from keeping abreast of developments in political science, sociology, history, and economics over the past forty years. Psychology, therefore, still holds sway in educational research.

This is a very serious problem today. A survey was carried out in 1964 among all the authors of research articles on education that appeared in some forty journals. Only 4 per cent of the authors were social scientists other than psychologists. And among the projects supported by the Cooperative Research Program of the U.S.O.E. from 1956 to 1963, only 10 per cent were conducted by social scientists other than psychologists.[2] What this means is that dozens of research topics are awaiting the attention of behavioral scientists. Such areas as subcultural differences among students, relations of schools to community power-structures, relations between high schools and colleges, teacher turnover, political socialization in schools, comparison of educational systems in different countries, professionalism and militancy of teachers, the organization of school systems, the emergence and effects of school segregation, and teacher-student relationships

are virtually neglected (or so poorly treated by educational psychologists that it would be better if they were neglected).

B. Pressures for school services

The second major problem that has haunted the field of educational research is that researchers have been pressed into providing a variety of short-range services to school systems. Periodic crises in education over the past half-century, such as mass immigration, the depression, Sputnik I, and desegregation, have been mainly responsible for these pressures. Consequently, educational experts have tended to provide a fire house type of research, and individuals who might have pursued careers in educational research have been drained off into pure services.

It should not be the obligation of an institution of higher learning to give routine help to schools, any more than it should be the responsibility of a medical school to take care of patients, of a law school to give legal aid to all comers, of a business school to help local corporations sell their products, or of a department of sociology to conduct the census, unless these activities are conducted solely for training purposes. These are jobs that can be done better, or at least as well, by non-university agencies. Institutions of higher learning should continually strive to improve the tools of social bookkeeping operations; but these tools should then be turned over to the appropriate authorities, such as the U.S.O.E. and State Departments of Education. Schools of education have lagged behind other sectors of the university in insulating themselves from pressures from clients for routine service work.

Although there is a great deal of discussion these days about applying the strategy of R, D & D (research, development and dissemination) to education, the new jargon does not alter the reality. In the absence of new research operations, these concepts will simply become new labels for traditional activities -- yesterday's textbook writing and curriculum consultations will become today's "development" and "dissemination." In short, a resurgence of interest in developmental and disseminative activities which is not linked to new and improved research simply means a continuation of the short-range, piecemeal services that have been supplied to schools for years. At present, there is not much reason to believe that educational research is any different from what it has always been (except for some developments in statistical techniques).

In the past decade, Congress has exacerbated the problem by rushing into crisis-oriented legislation and ignoring long-range support for programs of basic inquiry into educational problems, issues, and processes. Thus, the spasmodic demands for certain kinds of services, in combination with massive federal funding, have reenforced the isolation of professional education from the behavioral sciences by erecting a reward structure that is antithetical to thoughtful, sustained, high-level inquiry. Despite the fact that most professional educators are in favor of this development because of their own crisis-orientation, the ultimate outcome of this trend will be a myriad of educational fads whose sole value will be political. Lee Cronbach, former President of the American Psychological Association, furnishes a nice example:

> What sounds like a good idea is launched nation-wide long before it has been determined that the methods used are really suitable. There is no evidence to justify, for example, the California legislation that requires instruction in foreign language in grades six to eight; the assumptions used to justify the requirements are untested and, with the law now a fait accompli, no one is about to test them. The energies of the people who might be giving thoughtful attention to language instruction are diverted into a crash program to write curriculum materials and train teachers.[3]

And of the Headstart program, Cronbach states:

> ...psychologists do not know whether any of the intervention programs now being installed can produce lasting benefit to intellectual development; the programs differ so radically in their assumptions that we can be almost certain that some of them are wrong.[4]

In fact, evidence from a study in New York City has confirmed that the benefits of Headstart are shortlived because the traditional school program washes out any effects on the students after their Headstart experience.* Yet enormous sums are being spent on this single enterprise; and this is precisely the direction in which the academic community is being pushed even farther by recent U.S.O.E. outlays for development and dissemination combined with holding the line on research funds.

As a consequence of these two historical problems -- isolation from the liberal arts and sciences within the universities, and pressures from schools for emergency services from outside the universities -- personnel in schools of education have been absorbed into a myriad of administrative, service, developmental, teacher-training, and salesmanship activities. It is this conglomeration of non-research and quasi-research roles, produced by accidents of history, that is accepted today as the demand structure for dictating the future supply of educational research manpower.

---

*One surmises from this result that what is now needed is a Stay Ahead Program.

C. The chronic shortage of school practitioners

A third problem has been the enduring shortage of classroom teachers, guidance counselors, and school administrators. This shortage has meant that undergraduate students of education have been drained off into school systems immediately after receiving the college degree. Many of these teachers return to the university for graduate work after serving in school systems for several years, but only a small number (about 2,000) remain for the doctorate. Their occupational values and their career goals have already been formed, and they have families to support and school jobs awaiting them. It is therefore exceedingly difficult to attract these students to research careers, or to train them properly even when they happen to choose such careers. A few simple statistics reveal the magnitude of the problem from the viewpoint of research recruitment.

According to a national survey of college seniors in 1961, 13 per cent of all graduating seniors planned a career in fields of secondary or elementary education (about 115,000).[5] Eighty-five per cent of these students planned to take graduate work; but only 40 per cent of those who planned graduate work intended to pursue their studies in the following year. This was next to the highest postponement-rate of 17 academic and professional fields covered in the survey. And according to a U.S.O.E. study in 1960, it appears that less than 5 per cent of those who enter graduate schools of education arrive at the terminal year to receive a degree (this figure was computed by simply comparing

the number of first year students with the number of terminal year students in education fields in 1960).[6] Thus, we began with a pool of about 115,000 undergraduates who planned to take graduate work, with the prospect of only about 2,000 receiving advanced degrees -- a "drop-out" rate of about 98 per cent. (Since there were about 2,000 students in education registered for doctoral degrees in 1964, according to a survey conducted in that year, we can have some confidence in the stability of the 2,000 figure that was turned up in 1960.) Despite possible inaccuracies in the exact figures, it is obvious that there is an enormous drop-out between college and the receipt of advanced degrees of students interested in educational careers. Many of these drop-outs might have been attracted to research careers if the schools had not already gotten their hooks into them, and many might have become competent and even brilliant researchers.

Another consequence of the demand for practitioners is that professors of education in many schools are loaded down with teaching responsibilities, such as workshops, lectures, institutes, supervision of theses, and field supervision. Their research, if done at all, will therefore be highly spasmodic and fragmentary. It is hardly surprising that most articles published by educational researchers examine only one or two variables, when the studies should have included sixty or a hundred variables measured in all sorts of schools in all parts of the country. Teaching and related responsibilities do not even leave time for the planning of such research ventures, much less for their execution. Nor is it

surprising that, out of all persons conducting research oriented towards the concerns of professional education, only 3 per cent are full-time researchers. (Half devote less than 21 per cent of their time to research.)[7]

D. Quality of graduate students in education

Related to the prior career commitments of entering graduate students is the quality of students entering the field of education, which comprises the fourth problem that needs to be mentioned. There is little question that schools of education have attracted the less able students in the university. This has been shown by various measures of the qualifications of students entering different departments and schools in the universities. The relatively low prestige of education as a field of concentration is largely responsible; public knowledge that academic programs are less demanding in schools of education is another factor. In some universities, the professors in the liberal arts departments refer their least able students to the education department. Thus, in addition to their being previously committed to practical fields of education by their public school experiences, graduate students in education are of poorer academic quality than students in the behavioral sciences.

Policy Implications of the Four Problems

Because of the failure of the educational research field to recruit enough qualified personnel with a major commitment to research, new curricula and other schools practices are being diffused throughout the country without a grain of evidence that these practices are of

any educational consequence. The recent Coleman report on Equality of Educational Opportunity reaches the sobering conclusion that formal variations in schools programs have had very little effect on student achievement. This conclusion does not mean that schools cannot be modified so as to improve their educational impact, but that the changes that have been wrought so far, and at staggering expense, have been of trivial significance. In the absence of sustained inquiry into the relations among characteristics of the pupil (including social backgrounds and attitudes of hope or despair), school practices (including the quality of teaching and the bureaucratic obstacles that schools place in the way of learning), and local and national contexts (including labor markets, power structures, and the shape of higher education), the flood of insignificant but costly educational inventions will continue unabated.

Now let me turn to the policy implications of this state of affairs for the future recruitment, training, and placement of educational research manpower.

The implications for policy are four:

(1) More researchers from the behavioral sciences need to be recruited and trained for work on education, and particularly for work that strives for theoretical cogency and breadth.

> Despite the fact that the behavioral sciences have a great deal to say about education, almost all of the Research Training programs supported by the U.S.O.E. are located in Schools of Education. In other words, the traditional structures are still training the next generation of researchers. Some U.S.O.E. officials are worried about this lopsided distribution of training programs, but they have not had sufficient time, money, or staff to reach the behavioral science departments in the nation that can offer the best

> training to the best students. The schools of education got to the trough first and immediately dried it up. Unless support for these training programs is sharply increased, there will not be sufficient funds to create training programs in the behavioral sciences for another four years, which is the expected duration of the current programs.
>
> In the meantime, the R & D Centers and Regional Laboratories will have to continue recruiting from schools of education, despite their already desperate search for non-education trained people. If we wait much longer, people with educational backgrounds will gain positions of authority in these new structures, and the in-breeding of educationists will simply be transferred from the old institutions to the new institutions at public expense.

(2) The current hysteria for "development" and "dissemination" should not be permitted to obscure the need for something worthy of development and dissemination, which need can only be met by a larger and better qualified pool of educational researchers; nor should the current climate be permitted to drain off the available manpower for research.

> Although systematic research is by no means the only avenue to good educational ideas, a larger pool of researchers is needed to evaluate even those brilliant ideas that are not derived from research. Furthermore, basic research can provide short-cuts to the development of innovative practices by identifying the principles underlying learning, teaching, and administering. The principles thus identified might apply to a whole range of practices, thereby obviating the need to evaluate each new practice that comes along in particular schools.
>
> It certainly cannot be claimed that the failure of educational research to affect practices has been due to a lack of attention to immediate, practical problems, for this is precisely what educational research has been all about. As an historian of educational psychology has noted:
>
> > ...There has been an overwhelming emphasis in educational psychology upon the practical application of psychology. Theoretical issues have been neglected. ... The theoretical orientations that guide modern

> approaches to learning seem to have made astonishingly little impression upon research or application of the psychology of learning to the problems of educational psychology. They are not the foundation upon which educational psychologists build their work.[8]

Hence, if educational research has failed to improve education, it cannot be due to the lack of practical orientations. In fact, just the opposite is the case: preoccupation with easily identified practical issues has frittered away the resources of scientific research on education. And preoccupation with racing into the schools with the latest fad or gimmick has been draining the research manpower pool.

Granting the validity of this argument, it becomes obvious that the Research Training Programs supported by the U.S.O.E. need to be expanded to cover the behavioral science departments, and need to be oriented toward theoretical-empirical inquiry on the basic processes of education. The Research and Development Centers, also supported by the U.S.O.E., should not be rushed into the production of teaching materials, but should be permitted to demonstrate the value of sustained inquiry. And finally, a balance between research and development funds should be carefully preserved in the programs of the U.S.O.E. (As a result of recent Congressional appropriations this balance has been badly upset, with far greater weight being allotted to action programs in schools; and the greatest casualty of all was the Research Training Program, which was actually cut back after only one year of operation.) Unless much greater support is provided for research and for research training, there is no avoiding the fact that the sad history of educational research will repeat itself in the years to come.

(3) The demand for school practitioners means that (a) research talent needs to be identified and encouraged at an early stage so that students will go on for the doctorate without interruption, and then continue into research jobs; and (b) the best researchers need to be released from traditional teaching obligations so that they can conduct special research training programs and supervise students' research.

There is rather clear evidence from recent studies that involvement in educational practice reduces the productivity and quality of a man's research. At the very least, it absorbs a large portion of one's most productive years, thereby drastically reducing the total number of man-years that the nation can contribute to research on education.

But not only must promising graduate students be insulated from the imperious demands of school systems; qualified professors of research also need to be protected from the schools' labor demands. The reduction in the number of school practitioners that would result from measures to retain the best talent for research would be a drop in the bucket; but the proportionate increase in the nation's researchers would be substantial. Thus, competent research scholars should not be expected to teach courses for students preparing to be school teachers or administrators; nor should they be obliged to do any classroom teaching. At best, the classroom is a bureaucratic expedient called forth by conditions of mass education; at worst, it is an intellectually alienating experience. Far better training can be done by close supervision of students who are themselves engaged in research, or by professional level seminars that take up the real issues of scientific work, and not the phony issues that appear in the textbooks.

Incidentally, the textbooks on educational research are excrutiatingly mediocre. There is a crying need for fresh training materials, such as case studies of research projects, histories of the development of complex questionnaires, systematic comparisons of results yielded by different research methods, and so forth. In connection with support for research trainers, therefore, there should also be funds for developing training materials that can be shared across the nation.

(4) The relatively poor quality of graduate students in education means that sufficient funds have to be offered to attract the better students in other departments, particularly in view of the competition with other fellowship programs in the behavioral sciences; and that standards for entrance to advanced degree programs in education need to be raised.

The first point -- the necessity of attracting students from the behavioral sciences -- has already been mentioned. It should be noted additionally that there are many special-

ties within the behavioral sciences that compete for students, and that a major past determinant of growth in certain specialties has been the availability of research and research training funds.

Perhaps the easiest way to raise standards in professional departments is to shift control to the graduate faculties of arts and sciences -- specifically, control over the conferral of doctorates and over the hiring of the professional faculty. Joint teaching and research appointments are other means of raising the standards of professional schools, but these means chiefly depend on the inclinations of individual faculty members.

Concrete Federal Actions

A number of recommendations for federal action have been alluded to in the preceding sections. Here we shall try to sort them out for greater clarity. Our specific recommendations are the following:

1. Support for research training programs related to education must be sharply increased. The $7 million allotted for the coming fiscal year should be tripled in the near future.

2. About half of these training funds should be earmarked for training in the behavioral science departments, and particularly in non-psychological fields (economics, sociology, anthropology, political science, social psychology).

3. The major portion of the training funds should be allocated for graduate level training, rather than for training in State Departments of Education, short-term institutes, and post-doctoral or undergraduate programs.

4. The U.S.O.E. should offer extra funds to every project that assumes an obligation to train a graduate student (beyond the needs of the project for routine assistance). Thus, principal investigators could easily contract to help students write theses on topics of mutual interest to the investigator and to the student. By means of this provision, training would be built into research projects without the onerous necessity of seeking additional funds through separate proposals for each student on the project, which presently prevents many proposals from being written. Adoption of this plan would also reduce the exploitation of students as hourly laborers.

The separation of research training programs from project support is a bureaucratic artifact that if eliminated would increase the force of educational research apprentices by several thousands.

5. A clear distinction should be drawn between training programs that strive to develop "middlemen" in the linkage system between research and practice, and programs that focus on the training of basic investigators. Both kinds of training cannot be provided in a single program.

6. The present interdisciplinary Research and Development Centers should become Research Centers. Development should be the primary responsibility of other agencies, i.e., Schools of Education, Regional Laboratories, State Departments of Education, private testing agencies, and industry.

7. A Research and Development Center on the recruitment and training of researchers should be founded. This Center should carry out work on training of researchers, including studies of training programs in all of the behavioral sciences related to education, collection, development, and distribution of research training materials, experimentation in training techniques, and preparation of training directors.

8. The Bureau of Research, U.S.O.E., should assign first priority to the recruitment and training of educational researchers. It is easy to say that the launching and expansion of the Cooperative Research Program several years prior to provision of support for research training was an incredibly shortsighted move. What is needed now is not recrimination, but a crash program in the development of research personnel.

FOOTNOTES

1. R. Gibboney, et al, "Curriculum Components and Organization," Review of Educational Research, 33, 278-92; June 1963.

2. S. Sieber and P.F. Lazarsfeld, The Organization of Educational Research, C.R.P. Project 1974; 1966. (Bureau of Applied Social Research, Columbia University.)

3. L. Cronbach, "The Role of the University in the Improvement of Education," in Expanding Horizons and Knowledge about Man, A Symposium; Yeshiva University, March 21, 1966.

4. Ibid.

5. J. Davis, Great Aspirations, Chicago: Aldine Publishing Co., 1964, p. 52.

6. Enrollment for Advanced Degrees, Fall 1960, (U.S.O.E., 1963), pp. 47-8.

7. R. Bargar, Development of a National Register of Educational Researchers, C.R.P. Project No. E-014; 1965.

8. R. Watson, "A Brief History of Educational Psychology," The Psychological Record, 11, No. 3; July 1961; p.237.